2004 Comprehensive Drainage Plan
Programs, Funding, and Prioritization

Seattle Public Utilities

Background

In response to flooding in 1986, the Seattle City Council expanded the responsibilities of the existing Sewer Utility to include drainage, forming the Drainage and Wastewater Utility (DWU). This new utility was tasked with regulating stormwater runoff, alleviating flooding, mitigating water pollution caused by runoff and responding to federal stormwater regulations, in addition to managing the City's sewer system. To gain efficiencies and consolidate City functions, Seattle Public Utilities (SPU) was formed in 1997 by combining the DWU, Seattle Engineering Department, Seattle Water Department and Seattle Solid Waste Utility. The City completed two Comprehensive Drainage Plans prior to this` current effort. These plans, completed in 1988 and 1995 focused on major flooding problems in specfic drainage basins in the City.

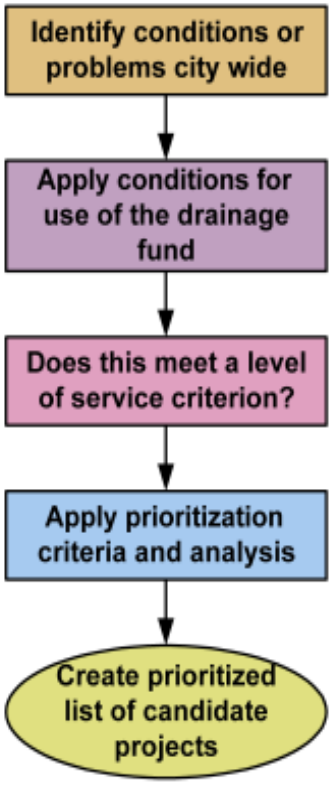
New Direction

The mission of the Drainage Program is to provide cost-effective drainage systems Citywide to safeguard public health and property while protecting our aquatic resources. The 2004 Comprehensive Drainage Plan (CDP) will chart a long-term course for drainage in Seattle with a specific emphasis on 2005-2010 Capital Improvement Programs (CIP). The 2004 CDP expands Seattle Public Utilities' (SPU) role in stormwater management from a conveyance focus to include other elements associated with drainage management, and has created four distinct programs each with its own goals and objectives.

- **Stormwater Conveyance and Flow Control**
- **Aquatic Resource Protection**
  - **-Water Quality**
  - **-Habitat**
- **Public Asset Protection**

The 2004 CDP will set drainage levels of service to the ratepayer which define the types of services (projects and programs) the SPU provides. The plan will provide a policy foundation for how drainage funds are spent and include prioritization and recommend timetables for implementing programs and constructing needed projects citywide.

Project/Program Development Process

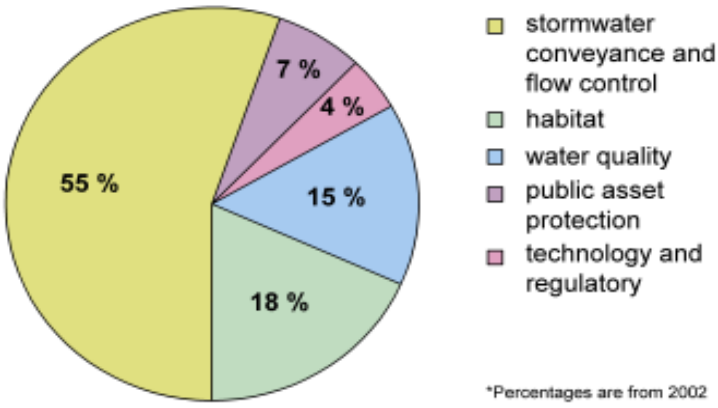


Before a project is undertaken by SPU, it goes through a thorough screening to determine the appropriateness, usefulness and relative priority of the project.
In order to use drainage funds, a project must have a clear connection to our drainage system, either through regulatory requirements, mitigation of drainage impacts, improving the drainage system, or in other ways meeting drainage utility needs.

Drainage Fund Allocation Decisions

The Drainage fund is made up of fees collected from ratepayers for providing drainage services throughout the City. The fund is allocated to projects, programs, maintenance (O&M) of the City's drainage infrastructure, and other ulitity expenses. Under consideration as part of the CDP development is the allocation of the drainage fund between programs.

Programs, Projects and O&M*



*Percentages are from 2002

STORMWATER CONVEYANCE AND FLOW CONTROL PROGRAM

The stormwater conveyance program works to alleviate flooding in Seattle, focusing on the protection of health and safety and protection against property damage. To date, SPU has addressed most major flooding problems associated with the trunk system (large transmission pipes), and is working to try to solve drainage problems locally using detention or infiltration.

Stormwater Conveyance and Flow Control Program Goals

- Manage surface water to protect public health and safety, minimize property damage, and protect the environment.
- Protect the value and function of drainage infrastructure and extend its useful life.

Proposed Stormwater Conveyance and Flow Control Policy Shifts

Key policy changes in the stormwater conveyance and flow control program from earlier comprehensive drainage plans include:

- Expand service beyond the trunk system
- Vary the level of flood protection according to drainage priorities
- Emphasize Natural Drainage Systems (NDS)
- Protect existing informal drainage systems (ditches)

Stormwater Conveyance and Flow Control Program Direction

The CDP is setting out a long term vision for Seattle's Stormwater Conveyance and Flow Control program. The level of accomplishment depends on resource allocation. An example level of service (LOS) is provided for context.

Direction	Maintain focus on major flooding problems associated with trunk system capacity and arterial flooding.	Focus on priority flooding problems, expanding service into local neighborhoods.	Increased level of property and safety protection (including mobility and critical services).
LOS Example	**Non-Arterial Streets:** No specific program	**Non-Arterial Streets:** No residential street flooding up to the 5-year, 24-hour storm event.	**Non-Arterial Streets:** No residential street flooding up to the 25-year, 24-hour storm event.

Long-term Vision

AQUATIC RESOURCE PROTECTION PROGRAM

SPU has invested drainage funds in projects that reduce or mitigate stormwater impacts on Seattle's aquatic environments through improved water quality, flood control, and habitat conditions. Aquatic Resource Protection includes both Habitat and Water Quality.

Aquatic Resource Protection Goals

- Protect and seek opportunities to improve water, sediment, and physical habitat quality in defined key environments associated with drainage and wastewater systems in Seattle.
- Foster awareness and stewardship of water quality, natural systems, and aquatic habitat
- Create a dynamic and responsive program that can effectively respond to and implement changes necessitated by new regulations, policies, and scientific information.

WATER QUALITY

Water quality is fundamental to protecting aquatic resources, public health, and maintaining recreational resources. Seattle's streams, lakes and marine waters still have water quality problems associated with an urban environment where contaminants are carried in runoff from streets and other surfaces. For many areas we still have limited information on the extent of the problem or its source. Proposed program direction in the 2004 CDP would expand water quality monitoring and source control activities.

Proposed Water Quality Policy Shifts

SPU will actively expand water quality monitoring activities and continue to focus on controlling pollution at the source.

Water Quality Program Direction

The CDP is setting out a long term vision for Seattle's Water Quality program. The level of accomplishment depends on resource allocation. An example level of service (LOS) is provided for context.

Direction	Maintain current water quality levels/ prevent further degredation.	Small-scale water quality improvements by addressing critical problem areas and activities.	Additional incremental improvements in water quality by investigating/ correcting suspected or potential problems.
LOS Example	**Pollution Prevention:** Moderate level of pollution prevention for public and private projects.	**Pollution Prevention:** Targeted pollution prevention for both public & private projects starting with known sources/contaminants and focusing on problem areas.	**Pollution Prevention:** Risk-based pollution prevention for both public & private projects using source tracing to identify key sources/ contaminants of highest concern.

Long-term Vision

HABITAT

Our urban creeks and shorelines are home to salmon and other water-dependent wildlife. SPU understands the impacts that urban runoff has on these habitats and has worked to protect and enhance water ecosystems. The 2004 CDP outlines an increased focus on habitat including improving and protecting habitat conditions along creeks and affected shorelines and fostering awareness and stewardship of natural systems and aquatic habitats through outreach, education, and partnerships.

Proposed Habitat Policy Shifts

SPU will continue to have healthy creeks as a goal and create projects based on the best available science and apply it to the most critical areas.

Habitat Program Direction

The CDP is setting out a long term vision for Seattle's Habitat program. The level of accomplishment depends on resource allocation. An example level of service (LOS) is provided for context.

Direction	Protect and improve habitat based on existing watershed plans and opportunities.	Protect and improve habitat based on an assessment of critical water quality and habitat conditions.	Protect habitat based on target conditions for specific drainage basins.
LOS Example	**Altered Hydrology (Flow):** Continue to rely on new development, redevelopment, and Natural Drainage Systems (NDS) projects to adjust flow.	**Altered Hydrology (Flow):** Conduct projects in prioritized areas that have identified impacts caused by altered hydrology (flow).	**Altered Hydrology (Flow):** Program not yet identified.

Long-term Vision

PUBLIC ASSET PROTECTION PROGRAM

Landslides present a risk to public health and safety, as well as to public facilities. City departments developed a prioritized list of landslide projects in 1998 as part of the City's overall public asset protection program.

Public Asset Protection Program Goals

- Protect drainage and wastewater infrastructure from undue risks and liabilities due to landslides – this includes projects and programs to reduce risk to vital drainage and wastewater infrastructure and to educate the public about the risks of owning property in landslide prone areas.
- Mitigate the direct effects of drainage and wastewater system operation on or within landslide prone areas – this includes protecting other properties from landslides that could be caused by inadequate City infrastructure.

Proposed Public Asset Policy Shifts

Much of the City's policy on landslides developed after the last Comprehensive Drainage Plan (City Council Resolution #29774, 1998) and includes:

- Clarify SPU's role in landslide work
- Establish a city-wide role for SPU in landslide mitigation, including cost sharing agreements

Public Asset Program Direction

The CDP is setting out a long term vision for Seattle's Public Asset Protection program. The level of accomplishment depends on resource allocation. An example level of service (LOS) is provided for context.

Direction	Protect, operate and maintain priority drainage and wastewater infrastructure to reduce the risks and liabilities associated with landslides.	Expand to include protection of medium priority SPU utilities and other priority City infrastructure. Establish a City-wide role for SPU in landslide mitigation.	Expand to include less critical City infrastructure.
LOS Example	**Landslide Mitigation:** Maintain focus on projects that provide a very substantial benefit for SPU drainage and wastewater facilities	**Landslide Mitigation:** Focus on projects that provide a moderate benefit for SPU facilities. Includes interdepartmental projects where other city infrastructure is protected as well.	**Landslide Mitigation:** Includes projects that have low benefit to SPU facilities. Includes interdepartmental projects where other city infrastructure is protected as well.

Long-term Vision

PRIORITIZATION CRITERIA FOR ALL PROGRAMS

- **Consistency with overall program objectives:** degree to which the project meets overall program objectives.
- **Implementation/phasing:** ease of implementation and whether the project can be implemented in phases.
- **Cost effectiveness:** life-cycle cost.
- **Customer service/community support:** level and extent of local and regional support and/or opposition. Whether the project affects a significant number of customers; and/or provides for geographic balance within the City.
- **Consistency with other city programs:** including Neighborhood Plans, Watershed Action Plans, City Comprehensive Plan, community and environmental objectives.
- **Environmental Stewardship:** the extent to which the project meets the City's environmental goals and/or specific regulatory requirements.
- **Multi-purpose use:** whether the project addresses more than one program, and/or supports other on-going efforts.
- **Use of fund:** project must have a clear connection to meeting our drainage utility purposes - as part of improving our system, through regulatory requirements, as mitigation of drainage impacts, or be cost shared.
- **Program-specific criteria** will also be considered.